

REMARKS

Claims 1-21 and 34-40 having been previously cancelled, Claims 22 through 33 are now presented for examination. Claims 22, 28 and 29 have been amended to define still more clearly what Applicant regards as his invention, in terms which distinguish over the art of record. Claims 22 and 28 are the only independent claims.

Claims 22-33 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Applicant's Admitted Prior Art (AAPR) in view of previously cited U.S. Patent 5,006,760 (Drake et al.). With regard to the claims as currently amended, this rejection is respectfully traversed.

Independent Claim 22 as currently amended is directed to a pod for attachment to the outside surface of a grounded electromagnetic shielded chamber having a door and a grounded flange portion around the door on the outside surface and which contains a device manufacturing apparatus that processes a substrate. In the pod, walls for containing a substrate and a lid for an opening defined by the walls through which the substrate is transferred between the pod and the grounded electromagnetic chamber. The walls have an electromagnetic shield member which includes a flange portion to be in contact with the grounded flange portion on the outside surface of the grounded electromagnetic shielded chamber during the attachment of the pod to the outside surface.

Applicant's admitted prior art (AAPA) disclosure has been cited as disclosing a pod attachable to the outside wall of an electromagnetic shielded chamber with walls and importing a substrate to a device manufacturing apparatus in the electromagnetic shielded member from the pod.

In Applicant's view, Drake discloses a capacitive feed arrangement for a parallel plate plasma reactor. One plate of the capacitor has a lower electrode or a contact to the lower electrode and the other plate of the capacitor has an annular member insulated from the lower electrode or contact. In Drake, an upper electrode 11 and a lower electrode 13 are separated by a dielectric ring 12. The lower electrode 13 is insulated from the upper electrode 11 and insulated from ground. The lower electrode 13 serves as a stage that holds a wafer 14. A shield 27 that extends around the lower electrode 13 and is insulated from the lower electrode 13 by rods 28 shields the environment from the RF power applied to the parallel plate plasma reactor. The shield 27 connects to a ground 26 which is insulated from the upper electrode 11 by the dielectric ring 12. Conductive ring 17 that is connected to an RF power source is insulated from upper electrode 11 and lower electrode 13 so that conductive ring 17 and lower electrode 13 form a capacitor 35 and a high power electromagnetic field is provided between the lower electrode 13 and the upper electrode 11.

According to the invention of Claim 22, a pod for attachment to the outside surface of a grounded electromagnetic shielded chamber has walls for containing a substrate that is transferrable between the pod and the chamber and an electromagnetic shield member. The electromagnetic shield member of the pod has a flange portion that is in contact with a grounded flange portion around a door on the outside surface of the grounded electromagnetic shielded chamber during attachment of the pod.

The AAPA may disclose the use of shielded metal chambers to cover micro-device manufacturing apparatuses so that electromagnetic waves are shielded from leakage. The

AAPA, as noted by the Examiner, does not specifically mention an electromagnetic shield member in the walls of a pod as in Claim 22.

Drake discloses a plasma reactor chamber having an upper electrode 11 and a lower electrode 13 separated by a dielectric ring 12. RF power is supplied to the chamber 10 from an outside source via conductive ring 17 to the lower electrode 13. An electromagnetic shield 27 surrounding the lower electrode 13 contacts a ground ring 26 that is exterior to and separated from both the upper electrode 11 and the lower electrode 13 of the chamber 10. Neither conductive ring 17 nor ground ring 26 of Drake contacts the chamber 10. In contrast to Drake, it is a feature of Claim 22 that the walls of a pod for attachment to the outside surface of a grounded electromagnetic shielded chamber having a grounded flange portion around a door has an electromagnetic shield member with a flange portion and another feature that the flange portion of the electromagnetic shield member is in contact with the grounded flange portion of the grounded electromagnetic shielded chamber during attachment of the pod to the outside surface of the grounded electromagnetic shielded chamber. Drake only teaches an electromagnetic shield 27 that contacts a ground ring 26 which ground ring is insulated from both the upper and lower electrodes 11 and 13 of the plasma reactor chamber 10. Accordingly, it is not seen that Drake in any manner teaches or suggests the feature of Claim 22 that a flange portion of a pod's electromagnetic shield member contacts the grounded flange portion of a grounded electromagnetic chamber during attachment of the pod to the chamber outside surface.

With regard to the cited combination, the AAPA is devoid of any suggestion of an electromagnetic member in the walls of a pod and Drake is restricted to an electromagnetic shield that contacts a ground ring which is insulated from a plasma reactor chamber. Neither the AAPA

nor Drake in any manner teaches an arrangement in which the walls of a pod has a flange portion in contact with the grounded flange portion surrounding a door on the outside surface of a grounded electromagnetic chamber during attachment of the pod to the chamber outside surface. As a result, it is not seen that the addition of Drake's electromagnetic shield that contacts a ground ring insulated from a plasma reactor chamber to the AAPA's teaching of covering apparatuses with shielded metal chambers to shield electromagnetic waves from leakage could possibly suggest the features of Claim 22 in which the flange portion of the electromagnetic shield in the walls of a pod is in contact the grounded flange portion surrounding a door on the outside surface of a grounded electromagnetic chamber. It is therefore believed that Claim 22 as currently amended is completely distinguished from any combination of the AAPA and Drake and is allowable.

Independent Claim 28 as currently amended is directed to device manufacturing apparatus that processes a substrate. In the apparatus, a transfer unit in an electromagnetic-shielded chamber transfers the substrate between the electromagnetic shielded chamber. A pod attached to the outside surface of the electromagnetic-shielded chamber has an electromagnetic shield member which includes a flange portion to contact the outside surface. A processing unit in the electromagnetic shielded chamber processes the substrate transferred into the electromagnetic shielded chamber from the pod by the transfer unit. The electromagnetic shielded chamber has a door and a grounded flange portion around the door on the outside surface to provide a grounded connection between the grounded flange portion and the flange portion of the pod during attachment of the pod to the outside surface.

In Claim 28 as currently amended, (1) the electromagnetic chamber has a door and a grounded flange portion around the door on the outside surface, (2) a pod attached to the outside surface of the electromagnetic shielded chamber has an electromagnetic shield member with a flange portion to contact the outside surface of the electromagnetic shielded chamber and (3) a grounded connection is provided between the grounded flange portion of the electromagnetic shielded chamber and the flange portion of the pod during attachment of the pod to the chamber outside surface. As discussed with respect to Claim 22, the AAPA only teaches the use of shielded metal chambers but does not specifically mention an electromagnetic shield member provided by the walls. Drake only teaches that the electromagnetic shield 27 of lower electrode 13 is grounded by a ground ring 26 which ground ring is insulated from the chamber 10 by dielectric ring 12 and insulating sleeve 25. Accordingly, the ground ring 26 is separated from both the upper electrode 11 and the lower electrode 13 of the plasma reactor chamber 10 so that there is no contact between the electromagnetic shield 27 and the chamber 10. Further as clearly shown in Fig. 1 of Drake, the conductive ring 17 does not contact ground ring 26 but is insulated from the ground ring 26 by dielectric ring 12 and insulating sleeve 25. The conductive ring 17 is also insulated from the grounded upper electrode 11 of chamber 10 by the dielectric ring 12. As a result, it is not seen that Drake in any manner teaches or suggests the features of Claim 28 related to a grounded connection provided between the grounded flange portion on the outside surface of the electromagnetic shielded chamber and the flange portion of the pod during attachment of the pod to the chamber outside surface.

Neither the AAPA nor Drake in any manner teaches the feature of the electromagnetic-shielded chamber having a grounded flange portion on its outside surface to provide a grounded connection to a flange portion of the outside surface of electromagnetic shield member of a pod during the attachment of the pod to the chamber outside surface. Accordingly, it is not seen that the addition of Drake's connection of electromagnetic shield 27 to a ground ring 26 which is insulated from the upper electrode 11 and the lower electrode of the chamber 10 to the AAPA which is devoid of any teaching of an electromagnetic shield member in its walls could possibly suggest the features of Claim 28. It is therefore believed that Claim 28 as currently amended is completely distinguished from any combination of the AAPA and Drake and is allowable.

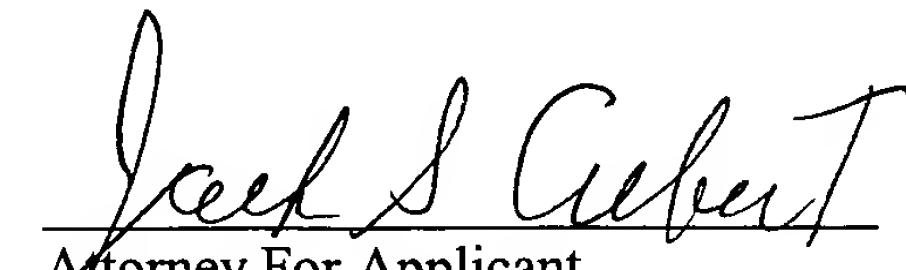
For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 22 and 28, also is patentably defined over the cited art.

Dependent claims 23-27 and 29-33 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claims 22 and 28. Further individual consideration of these dependent claims is requested.

Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicant's attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,


Attorney For Applicant
Jack S. Cubert
Registration No. 24,245

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-380
Facsimile: (212) 218-2200
JSC/cmg

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